

TECHNICAL WORK MAY NOT BEGIN PRIOR TO CO APPROVAL

NASA/GODDARD SPACE FLIGHT CENTER

REQUEST FOR TASK PLAN / TASK ORDER

CONTRACTOR	CONTRACT NO./TASK NO.	JOB ORDER NUMBER	APPROP. FY
QSS Group, Inc.	NAS5- 99124 TASK NO. 126 AMENDMENT	562-146-10-03-89	99

TASK TITLE: (NTE 80 characters; include Project name)

Radiation Effects Testing and Analysis Services

APPROVALS: (Type or print name and sign)

ASSISTANT TECHNICAL REPRESENTATIVE (OR TASK MONITOR)

Kenneth A. LaBel	DATE 8-18-99	ORG CODE 562	MAIL CODE 562.1	PHONE 301-286-9936
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BRANCH HEAD

Arthur S. Obenschain (acting)	DATE 8/20/99	CODE 562	PHONE 301-286-5118
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CONTRACTING OFFICER'S TECHNICAL REPRESENTATIVE (COTR)

Robert S. Lehair, Jr.	DATE 8/22/99	CODE 560	PHONE 301-286-6588
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FLIGHT HARDWARE, CRITICAL GSE OR SOFTWARE

(IF YES, NEED CODE 303 CONCURRENCE NEXT BLOCK)

CONTRACTING OFFICER'S QUALITY REP.

DESIGNATED FAM:

[X] NO [] YES

The contractor shall identify and explain the reason for any deviations, exceptions, or conditional assumptions taken with respect to this Task Order or to any of the technical requirements of the Task Order Statement of Work and related specifications. The contractor shall complete and submit the required Reps and Certs.

(To be completed by Contracting Officer)

C.O. Requested Quote on:

Date: AUG 22 1999

Contractor will develop specification or statement of work under this task for a future procurement. [X] NO [] YES

Flight hardware will be shipped to GSFC for testing prior to final delivery [] NO [] YES [X] N/A

Government Furnished Property/Facilities: [] NO [X] YES -- SEE LIST OF GFP (offsite only) / FACILITIES (onsite only)

Onsite Performance: [] NO [X] YES If yes: [X] TOTAL [] PARTIAL
If partial, indicate onsite work in SOW by asterisk (*)

Surveillance Plan Attached: [X] NO [] YES

Highlighted Contract Clauses: (to be completed by Contracting Officer)

Per Clause H.14, Task Ordering Procedure, Subparagraph (f), the effective date of this task order shall be October 1, 1999

INCENTIVE FEE STRUCTURE (check one)

(See Contract NAS5-99124, Attachment K, Incentive Fee Plan)

	No. 1	No. 2	No. 3	No. 4	X No. 5
Cost	10%	50%	25%	25%	20%
Schedule	15%	25%	25%	50%	40%
Technical	75%	25%	50%	25%	40%

(To be completed by Contracting Officer)

The target cost of this task order is \$ 958,245

The target fee of this task order is \$ 16,130

The total target cost and target fee of this task order as contemplated by the Incentive Fee clause of this contract is \$ 974,375

The maximum fee is \$ 23,574

The minimum fee is \$0.

AUTHORIZED SIGNATURE:

THIS TASK ASSIGNMENT IS ISSUED ACCORDING TO THE CONTRACT CLAUSE "TASK ASSIGNMENTS AND REPORTS"

Lorrie L. Eakin
SIGNATURE OF CONTRACTING OFFICER

2/15/00
DATE

Lorrie L. Eakin
Contracting Officer

TYPED NAME OF CONTRACTING OFFICER

CONTRACTOR'S ACCEPTANCE:

AUTHORIZED SIGNATURE

DATE

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QSS Group, Inc.	NAS5- 99124	126	

Applicable paragraphs from contract Statement of Work: Function 2D8

STATEMENT OF WORK: (Continue on blank paper if additional space is required)*(This is a follow-on to Task 48 under this contract. Task start date is 10/1/99.)*

The requirement is to provide services to the Radiation Effects and Analysis (REA) Group of the Component Technologies and Radiation Effects Branch (Code 562). The radiation effects of concern are total ionizing dose (TID), displacement damage (DD), and single event effects (SEE).

The contractor shall provide services to the REA in the design and development of radiation test systems and radiation analyses as follows:

1. Design and development of test plans as well as test suite hardware and software compatible with existing VXI test equipment or with standalone capabilities for radiation effects testing in support of NASA flight projects and research efforts. Research efforts include NASA's ERC Project and DTRA's RTM Program.
2. Performance of radiation effects tests. This includes detailed abilities to interface with facility equipment (hardware and software).
3. Provide services for determining radiation effects test levels (TID, SEE, or Displacement Damage) for tests as well as beam control capabilities at selected offsite facilities.
4. Reduce raw radiation test data and determine mission-specific and generic performance analyses of radiation effects test results. Develop test and application reports.
5. Determine mission-specific system-level impacts of radiation test results and make recommendations to designers..
6. Screen parts lists for radiation effects. Determine applicability to mission and make recommendations for alternatives, mitigation techniques, or for testing.
7. Develop test plans for research efforts in the area of emerging technologies such as photonics or for radiation issues such as damage or transient experiments.
8. Evaluate mission radiation risk assessment.
9. Develop technical assessments for radiation research monthly and quarterly reports.
10. Design and develop flight radiation experiments and provide services to support data analysis.

GFE is PCs and software tools for code development and website maintenance.

Performance of radiation tests may take place onsite (i.e., GSFC's Co-60 source) or offsite (i.e., Brookhaven National Labs or University of California at Davis). Radiation safety certification is required.

PERFORMANCE SPECIFICATIONS:

Analyses shall provide experiment/engineering background and full analysis of events observed during radiation experiments. Analyses for mission issues shall be in accordance with mission needs or as required by sponsor.

Test suite deliverables shall include documented and functioning test setups. Documentation shall be in accordance with industry standard practice.

APPLICABLE DOCUMENTS:

None.

TASK END DATE: 9/30/00**MILESTONES/DELIVERABLES AND DATES:**

See Page 3.

PERFORMANCE STANDARDS:

Schedule: On-time delivery of the above
Technical: ATR's acceptance of the above

FINAL DELIVERY DESTINATION (NAME, BLDG, ROOM):

Kenneth A. LaBel, building 11, room E208B

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MILESTONES/DELIVERABLES AND DATES:

Analysis of radiation experiments: 2 weeks following test completion

Radiation experiment setup development is from 2-6 months prior to test date.

Off-site radiation tests:

<u>Test</u>	<u>Site</u>	<u>Dates</u>
(1) Proton experiments on emerging technology, linear, COTS, and optical devices	UC Davis	12/30/99, 3/30/00, 6/30/00
(2) Proton experiments on emerging technology, linear, COTS, and optical devices	IUCF	11/18/99, 4/24/00
(3) Proton experiments on optical devices	TRIUMF (Vancouver)	10/31/99-11/7/99
(4) Co-60 experiments on step-wise irradiation and linears	GSFC	1/30/00, 5/30/00
(5) Heavy ion experiments on emerging technology, linear, COTS, and optical devices	BNL	1/30/00, 4/30/00, 8/30/00
(6) Neutron experiments on linear devices	ARL	12/30/99

Reports: (1) Technical inputs to quarterly reports for Defense Threat Reduction Agency and NASA Electronic Parts and Packaging Program/ ERC Project. Quarterly
(2) Draft proton test document 8/30/00

Additional Hardware: (1) RH21020 tester fully integrated with software 10/30/99
(2) Integrate 3-axis stage for UC Davis tests 10/15/99

Test plans: (1) ISSA Fluids and Combustion Facility 11/30/99 final
(2) Coordinate GMR/TMR test plan with JPL lead 11/30/99
(3) Coordinate optical component test planning with industry and government partners 11/15/99
(4) Provide plan for investigation into SEL reliability 11/15/99
(5) Provide plan for developing proton test documents 11/15/99

Proposals: (1) Provide technical inputs to REA on ERC and CETDP proposals: 3/15/00

Analyses: (1) Provide weekly support to GLAS/Icesat/GPS Weekly

Tools: (1) Initial model for f/o radiation performance tool (SEE) 5/1/00
(2) 1st pass at user f/o tool demonstration (SEE) 9/1/00

Miscellaneous: (1) Provide REA technical and logistic services at IEEE NSREC 7/10-14/00
(2) Provide REA technical and logistic services at SEE Symposium 4/11-14/00
(3) Provide REA technical and logistic services for ERC presentations and conferences 11/15/99, 3/15/00, 5/30/00, 9/15/00
(4) Provide technical services for ERC research tasks 11/15/99, 3/15/00, 7/15/00
(5) Provide technical services and critical analysis of neutron SEE test and rate prediction w/SRC and Sematech 11/15/99, 3/15/00, 7/15/00